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Appeal Brief

Appeal of Alfred B. Levine, applicant

Serial Number :09/814,054

Filed 3-22-01

For: NON-COMPUTING NAVIGATION SYSTEM

Art Unit : 2976

Examiner: Steven S. Paik

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I. REAL PARTY IN INTEREST

Applicant, Alfred B. Levine

II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to appellant, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 – 50 are cancelled.

Claims 51-68 are pending in this application. Claims 51-68 have been rejected and are subject of this appeal.

IV. STATUS OF AMENDMENTS FILED AFTER FINAL REJECTION

A Request for Reconsideration was filed on April 29, 2003, after Final Rejection. Additionally, this request made technical correction to some of the claims as requested by the Examiner.

The Request for Reconsideration was denied by the Examiner. The proposed corrections to the claims to correct various informalities were not entered.

V. SUMMARY OF THE CLAIMED INVENTION

The invention of the claims covers a navigation system for automobiles that continually guides the vehicle to a selected destination by continually communicating (e.g. displaying) the heading direction to be followed to reach the destination. The communication is preferably made in the form of two discrete flashing light dots applied to the windshield of the vehicle. (See FIG. 1, spec. page 4, l. 3-28; and pg. 2, lines 3-22). The first dot 14 is movable as the vehicle proceeds and shows the changing location of the automobile, and the second dot 15 is fixed and shows the location of the chosen destination selected by the driver. If the vehicle proceeds along a correct heading the dots are seen to converge toward each other, whereas if the vehicle proceeds at an incorrect heading, the dots diverge away from each other.

The two dot display (FIG. 1 and FIG. 7, lines 14 and 15) is simplified, map-free, and uncluttered, and is therefore preferably projected on the vehicle windshield directly before the driver, permitting the driver to observe and be guided by the two dot display while also observing the road ahead of the vehicle (see Spec. page 6, lines 1-5). Because the display is simplified, uncluttered, and map-free, it does not obscure the driver's vision of the roadway ahead nor unduly distract the driver's attention from safe operation of the vehicle.

The claimed system does not calculate any travel path for the vehicle to follow but guides the vehicle along any route selected by the driver using heading direction alone (as shown by the relative positions of the two dot display). This permits the driver to circumvent any road repairs, accidents, or traffic congestion, while continually receiving direction guidance toward a chosen destination.

When the vehicle nears the immediate vicinity of the chosen destination, the system then displays the local streets in the vicinity of the destination, also enabling the driver to select any street routing to a selected landmark or building (see FIG. 6, spec. page 4, line 19 - page 12, lines 1-12).

VI. ISSUES

All of the Appealed claims have been rejected under 103 (a) citing the primary reference patent of Asano et al. (US 5,587, 911) combined with one of both of the secondary reference patents of Ohmura et al (US. 6,208,932) and Kubon (US 5,682,030).

Specifically, all of claims 51, 52, 55-65, 67, and 68 have been collectively rejected under 103 (a) combining the patents of Asano et al and Ohmura et al.

The remaining group of claims 53, 54, and 66 has been collectively rejected under section 103 (a) combining the patents of Asano et al., Ohmura et al., and Kubon.

Claims 51, 53, 55-59, and 62 68 have been objected to for informalities.

VII. GROUPING OF CLAIMS

(With respect to the final 103(a) rejection of claims 51, 52, 55-65, 67, and 68, the claims of the following groups stand and fall together.)

GROUP 1---claims 51, 54, 55, 62, 63, 64, 65, and 67.

GROUP 2--claims 52, 53, 56, 57, 61 and 66 (are contended to be separately patentable over GROUP 1.)

Group 3-claims 58, 59, 60, 66, and 68 (are contended to be separately patentable over GROUPS 1 and 2 above.)

VIII. ARGUMENT

103 (a) rejection of all claims 51, 52, 55-65, 67, and 68.

The primary cited reference of Asano et al has been incorrectly described in the FINAL REJECTION. A corrected description is given in the REQUEST FOR RECONSIDERATION after FINAL REJECTION (pages 6 to 9)

As correctly described, the Asano et al patent discloses a system that ALWAYS computes a defined travel route leading to a selected destination. This defined route is displayed on an initial screen display 60 (FIG 7 (a)). The driver can require the system to re-compute a different defined routing by depressing a switch 64 on screen 60. However, the system always computes or re-computes the guidance route and the driver can never select the route to be followed (and receive guidance from the system). According to the claimed invention, the vehicle is guided along any route selected by the driver.

In the patent, to begin guidance of the vehicle, the driver then depresses the GUIDE START KEY 66 on the first screen display FIG. 7 (a), and the second screen display appears (70- FIG. 7 (b)). The second display shows the names of the streets and intersections along the computed route 73, the distances between the streets, and a further series of screen switches 76, 77, and others, to enable the driver to obtain additional screen displays. The ROUTE INFORMATION switch (upper left FIG. 7 (b)) brings up the detailed route display FIG. 6 (col. 6, lines 40 to 45). Alternatively, depression of any of the PERIPHERAL MAP switches 76 displays detailed street maps of any of the named streets (FIG. 7 (c) and others).

In the event that the driver wishes to change the computed travel guidance route, the driver depresses the RETURN SWITCH 77 (FIG. 7 (b)) to return to the initial display FIG. 7 (a). The driver then depresses the ROUTE CHANGE switch 64 and the system responds to re-compute a different guidance route for the vehicle to follow. After such re-computation, the driver starts all over again by depressing the GUIDE START switch 66 to return to the second display FIG. 7 (b) and begin guiding over the new re-computed route.

Thus it is seen that this patent ALWAYS computes or re-computes a defined travel guiding route for the vehicle and provides the driver with a series of different displays on the screen (that are individually selectable by screen switches) to guide the vehicle.

Errors in 103 (a) rejection of claims 51, 54, 55, 59, 62-65, and 67

All of the claims in this first group of broadest claims define a navigation system wherein the vehicle is guided by heading direction alone using a single display or communication consisting of only two dots or markings on the screen. The Asano et al patent is entirely different as described above. It guides the vehicle along a fixed, defined, computed travel routing using a series of different displays (e.g. FIG. 7 (a). FIG. 7 (b), and FIG. 7 (c) etc.) Each of which is selected by the driver by depressing a different screen switch.

All of the rejected claims in this first group specify that the two dot single display is the only display or communication to guide the vehicle, and the driver can select any available travel route to a desired destination being guided only by the two dots or markings.

The Ohmura et al patent is not relevant to the coverage of these claims, since this reference has been cited only to show a "windshield display" and these claims do not include this feature.

Errors in the 103 (a) rejection of claims 52, 56, 57, and 61 over Asano et al. combined with Ohmura et al.

This Group 2 of claims specify that the single two dot or marking display of the present invention is applied to the vehicle windshield (e.g. heads up display) whereby the display can be directly viewed by the driver during operation of the vehicle. The Final Rejection proposes to apply the series multiple screen displays of the Asano et al. patent to the windshield of the vehicle as in the Ohmura et al patent.

However, such a combination would be unworkable and, in fact, dangerous to the driver and occupants of the vehicle. The very detailed multiple screen displays of Asano et al. (e.g. FIGS. 7 (a), 7 (b), 7 (c) etc.) would obscure or partially obscure the driver's vision of the road through the windshield, and would divert attention away from safe driving of the vehicle. The various switches in the Asano et al patent used to switch the different displays on the screen would be required to be located on the vehicle dashboard or elsewhere in the vehicle to further divert the driver's attention. In the present invention, on the other hand, the simplified two-dot display would neither obscure vision nor divert attention from safe driving of the vehicle. Thus the proposed combination of these patent disclosures, as proposed, would not be very practical, safe, or obvious.

Additionally, there id no suggestion to be found in either reference that might suggest such a combination of the two patent teachings.

Errors in the 103 (a) rejection of claims 53, 58, 59, 60, 66, and 68

This Group 3 of claims sets forth a two phase guidance system wherein the vehicle is initially guided by a two dot heading display of the present invention until the vehicle nears its selected destination, and then the display shows the local streets, and landmarks to guide the vehicle directly to a selected landmark or building. Claims 53, 58, 59, 60, 61, and 66 specify that the local display identify a specific building or other specific landmark.

The claims in this group have been rejected by combining the Asano et al. patent with the Ohmura et al patent (windshield display) and further combining them with the patent to Kubon (detection of digitally coded signs). As discussed above, the two dot display of the present invention that guides the vehicle during the first phase by heading direction alone is entirely different than the multiple display screens of Asano et al. that guide the vehicle along a defined travel route computed by the patent system. The Kubon patent is cited only to show reading digital codes on road signs in the automotive field (see FIG. 16 and col. 20, lines 26 to col. 21, line 6). There is no suggestion in this patent of applying digital codes to identify individual buildings or landmarks, as set forth in these claims. Instead the patent discusses only the roadway sign application. Thus the combination of the three patents proposed in the Final Rejection involves only the selection of different parts from different patents without any suggestion to be found for such combination in the patents themselves.

In summary, the Asano et al patent does not disclose a two phase system as claimed wherein the vehicle is guided by heading direction alone in a first phase using only a two dot display or marking. The Asano et al patent additionally does not disclose a system wherein individual buildings or landmarks at the destination can be identified in a

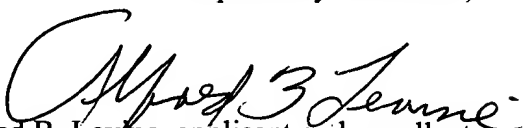
second guidance phase. It would not be reasonable or safe to apply the detailed multiple screen displays of Asano et al to the windshield of a vehicle as disclosed in Ohmura et al. And the Kubon patent does not teach or suggest the use of digital codes on specific buildings or landmarks to identify such specific places.

Errors in 103 (a) rejection of claim 57

This claims specifies a more accurate guidance of the vehicle by the two dot or marking display by enlarging the scale of the display as the vehicle nears its destination. Since this two dot-marking display is not shown or suggested by any of the references cited, the improvement of its accuracy would most certainly not be obvious.

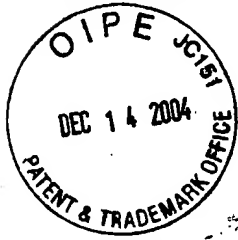
All of the claims in this application are believ4ed to be patentable, and such action is respectfully requested by the Board of Appeals.

Respectfully submitted,


Alfred B. Levine, applicant and appellant

Date:

Enclosure - Appendix



IX. APPENDIX - CLAIMS ON APPEAL

51. A non-computing navigation system for guiding a driver operated vehicle to a selected destination by communicating only an uncluttered two location representation of the changeable location of the vehicle referenced to that of the fixed location of the destination, and wherein the system does not provide any specific routing path between the two locations but instead enables the driver to select any routing path being guided only by the two location representation,

detecting means for continually detecting exteriorly of the vehicle the changeable location of the vehicle,

display means energized by said digital detecting means and responsive to a driver chosen destination location to continually display only a pair of uncluttered markings corresponding to the changeable vehicle location and that of the fixed destination location, said display being free of any routing path interconnecting the two markings,

said two markings being displayed within the vehicle in such manner that they can be continually observed by the driver without diverting attention from safe driving of the vehicle.

52. In the system of claim 51, said driver operated vehicle having an observation window for observing roadway conditions, and said two location display being applied to said window to enable continuing viewing of said markings while observing the roadway conditions.

53. In the system of claim 51, said system providing a second phase of operation when the vehicle nears the destination, in said second phase of operation, digital sensor means for detecting digital codes on landmarks near the destination, which landmarks may include individual buildings, to identify said landmarks, said digital sensor means energizing said display means to superimpose an identification of said landmarks on said markings when the vehicle nears said destination,

whereby the vehicle is continually guided solely by the two markings on the display supplemented by the landmark identification when the vehicle nears the destination.

54. In the system of claim 51, said detecting means comprising a digital reader for detecting digitally coded markings located at geographically spaced locations exteriorly of the vehicle.

55. A non-computing navigation system for a driver operated vehicle for continually guiding the vehicle to a selected destination without following any predetermined, calculated routing path,

said system providing an uncluttered display of only two discrete markings, the first marking corresponding to the changeable geographic location of the vehicle, regardless of the route followed by the vehicle, and the second marking corresponding to a fixed geographic location of a selected destination,

said navigation system being free of computation any predetermined route path for the vehicle to follow to said destination, and the two discrete markings providing the sole guidance by the navigation system until the vehicle nears said destination,

said display of the two markings being provided within the vehicle in such manner that they can be observed without diverting attention away from safe operation of the vehicle.

56. In the system of claim 55, said vehicle having a conventional viewing window to permit viewing of the streets and roads ahead of the vehicle, and the display of the two discrete markings being applied to said window, thereby to minimize distraction in operation of the vehicle by the driver.

57. In the system of claim 55, the display of the two markings on the screen being enlarged in scale as the vehicle approaches closer to the destination, thereby to more accurately guide the vehicle.

58. A two phase navigation system for assistance in guiding a driver operated vehicle to a selected destination along any travel route selected by the driver of the vehicle leading toward said destination, and wherein during a first phase said system continually communicates an uncluttered map-free representation of only two markings corresponding to the changeable location of the vehicle and the fixed location of the destination until the vehicle nears the destination, and in a second phase, said system communicates as a supplement to said two markings, local landmark information that may include an identification of an individual building, whereby during both of the two phases, the driver can choose any route to the destination that is available or convenient, said system comprising:

in said first phase, detection means for continually determining the actual geographic location of the vehicle referenced to the geographic location of the destination

and communicating said two geographic locations by only said two markings exclusive of any other communication,

and in a second phase, when the vehicle has neared the location of the destination, sensor means for detecting actual landmark information that may include an individual local building structure, and applying said detected landmark information as a supplement to the communication of the two markings,

whereby during both of the two phases , the driver can choose any available routing path toward the destination and continually receive advisory guidance from the system to assist in reaching said destination.

59. In the system of claim 58,

said detection means including a visual display screen within the vehicle, and means for energizing said display to show only a pair of markings corresponding to the geographic location of the vehicle and the geographic location of the destination, thereby to continually advise the driver of the heading direction to reach the destination regardless of the routing path followed by the vehicle.

60. In the system of claim 58,

said detection means including an audible generator for communicating said markings and said landmark information.

61. In the system of claim 58,

said driver operated vehicle having an observation window for enabling the driver to view roadway conditions, and display means for applying said two markings to said window.

62. A two-phase, non-computing, advisory navigation system for guiding a driver operated vehicle to any selected destination, and enabling the driver to select any travel routing to said destination that is available or convenient, said system comprising:

a direction communicating means within the vehicle for continually advising of the heading direction to be followed for any travel routing selected by the driver,

said direction communicating means comprising detector means for continually determining the actual geographic location of the vehicle referenced to the geographic location of the destination, and

including a communicating means energized by said detector means to generate a map-free display within the vehicle displaying only two discrete markings corresponding to said location of the vehicle and the location of the destination,

thereby continually advising of the heading direction to be followed to said destination regardless of the travel route selected by the driver of the vehicle.

63. In a navigation system for a driver operated vehicle,
means for enabling the driver of the vehicle to select any available routing to reach a selected destination while continuously providing guidance to the driver to assist in reaching said destination,

said means comprising a communicator means for conveying a first uncluttered, discrete communication corresponding to the changeable geographic location of the vehicle at all locations along any routing chosen by the driver, and said communicating means conveying a second uncluttered, discrete communication corresponding to a fixed geographic location of a destination selected by the driver of the vehicle, said first and

second communications being map-free and exclusive of other communications by the guidance system until nearing the location of the selected destination,

whereby said first and second discrete location communications continually inform the driver of the vehicle of the location of the vehicle referenced to that of the destination to guide the vehicle toward said destination regardless of the routing chosen by the driver of the vehicle.

64. In the system of claim 63,

said communicator means comprising a visual screen, and said first and second uncluttered communications comprising first and second discrete visual markings on the screen exclusive of any other visual presentation on the screen.

65. In the system of claim 63,

said communicator means comprising an imaging device providing first and second discrete visual markings corresponding to said first and second uncluttered communications.

said imaging device applying said visual markings to the driver without diverting attention away from proper driving of a vehicle,

said uncluttered discrete markings exclusive of other visual presentations from the imaging device requiring minimized attention of the driver of the vehicle.

66. In the system of claim 63,

the addition of sensor means for detecting digital markings on landmarks and structures in the vicinity of the selected destination, which landmarks and structures may include specific buildings and building addresses,

said sensor means energizing said communicator means to supplement said uncluttered communications with the identity of said landmarks and structures when the vehicle is in the vicinity of said destination.

67. A non-computerized navigation system for a driver operated vehicle wherein the system communicates to the driver an uncluttered, map-free, representation limited only to the comparative geographic location of the vehicle referenced to the geographic location of a selected destination, and wherein the system does not compute any selected routing path for the vehicle to follow to reach said destination, comprising:

detecting means for receiving actual external information that continually identifies the changeable actual location of the vehicle,

communicating means energized by said detecting means and responsive to the inputting of said selected destination for communicating a map-free, uncluttered representation consisting solely of the geographic location of the vehicle and the geographic location of the destination,

said communicating means providing only two discrete, displaced marking locations until the vehicle nears the location of the destination.

68. A non-computing, two phase navigation system for driver operated vehicles for enabling the continual guiding of the vehicle to a selected destination by heading direction alone during a first phase without reference to any selected routing path, and in a second phase occurring when the vehicle has arrived in the near vicinity of said destination, guiding the vehicle to the destination along any routing selected by the driver, by communicating localized information specific to the landmarks of the areas about the destination comprising:

in the first phase, communicating means for continual conveying a map-free uncluttered representation corresponding only to the relative geographic location of the vehicle referenced to the selected destination, thereby enabling the vehicle to proceed toward the destination along any routing chosen by the driver by heading direction alone without following any predefined routing of streets, roads, or road intersections, and

in a second phase occurring when the vehicle has neared the vicinity of the destination communicating actual local landmark information near the destination to enable the vehicle to be guided directly to the destination by the local landmark information along any desired routing.